

**Amendments to the Claims:**

The following listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (currently amended) A substrate holder assembly for a facility for epitaxial deposition of semiconductor material ~~on a substrate~~, the ~~substrate holder~~ assembly comprising:

a substrate for the epitaxial deposition of semiconductor material, the substrate having a pre-determined thickness; and

a substrate holder comprising:

a substrate supporting face having a support step;

a holder rear face, which faces away from said substrate supporting face; and

a temperature equalization structure which results in a defined temperature profile over the entire substrate surface of the substrate, which is located on or in the vicinity of the substrate holder, during heating or cooling which occurs during the epitaxial deposition,

wherein said temperature equalization structure comprises a stepped relief which is formed on said substrate supporting face of the substrate holder, and

wherein the support step is configured to support the substrate so that a bottom surface of the substrate is disposed lower than an edge area of the substrate holder and a top surface of the substrate is disposed higher than said edge area.

2. (currently amended) The substrate holder assembly as claimed in claim 1, in which the temperature equalization structure results in an as uniform as possible temperature over the entire substrate surface.

3. (canceled)

4. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 1, in which the temperature equalization structure comprises one or more three-dimensional structures which are formed by at least one groove which runs in the vicinity of the edge.

5. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 4, in which the width of the groove or grooves is at most 80% of the radius of the substrate holder, and the depth of the groove or grooves is less than the thickness of the substrate holder or of a coating which is located on the substrate supporting face.

6. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 4, in which the groove or grooves is or are arranged in an annular shape and concentrically.

7. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 4, in which the distance between the grooves in areas in which relatively high temperatures

occur during or after the mentioned process, in particular during the growth of semiconductor material, is less than in the areas in which temperatures which are lower than these occur.

8. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 4, in which the depth of the grooves is greater in areas in which relatively high temperatures occur during the growth of the semiconductor material than in areas in which temperatures which are lower than these occur.

9. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 4, in which the groove or grooves has or have a quadrilateral, circular or oval cross section, or a cross section with a segment of one of these shapes.

10. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 1, in which the temperature equalization structure comprises texturing.

11. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 10, in which the texturing includes two or more trenches and/or pits, the distance between which is matched to the temperature profile of the substrate holder, in such a way that the distance between trenches and/or pits in areas in which relatively high temperatures occur during the growth of the semiconductor material is less than in areas in which temperatures which are lower than these occur.

12. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 10, in which the texturing includes two or more trenches and/or pits, whose depth is matched to the temperature profile of the substrate holder such that the trenches and/or pits are deeper in areas in which relatively high temperatures occur during the growth of semiconductor material than in areas in which temperatures which are lower than these occur.

13. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 10, in which the texturing includes

trenches wherein at least some of these cross one another,  
trenches wherein at least some of these are arranged parallel to one another,  
trenches where at least some of these are curved,  
pits which are in the form of dots, circles or cuboids,  
pits which have a combination of dotted, circular and/or cuboid shapes, or  
trenches and/or pits which have a combination of at least two of the shapes mentioned above.

14. (currently amended) The substrate holder assembly as claimed in claim 1, in which the stepped relief comprises two or more circulating steps of different depths.

15. (currently amended) The substrate holder assembly as claimed in claim 14, in which the steps are arranged concentrically and centrally.

16. (currently amended) The substrate holder assembly as claimed in claim 14, in which the stepped relief is continuous.

17. (currently amended) The substrate holder assembly as claimed in claim 14, in which the depth of the steps is matched to the temperature profile of the substrate holder, such that the depth of the steps is greater in areas in which relatively high temperatures occur during the epitaxial deposition of semiconductor material than in areas in which temperatures which are lower than these occur.

18. (currently amended) The substrate holder assembly as claimed in claim 1, in which the substrate supporting face has a substrate support structure, by means of which, when the substrate is supported, a gap is formed between the substrate and the substrate holder.

19. (currently amended) The substrate holder assembly as claimed in claim 18, in which the substrate support structure is designed such that essentially only the edge or those areas of the substrate which are on the edge are supported, and the substrate essentially makes no contact with the substrate holder anywhere else.

20. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 18, in which the substrate support structure has a step which surrounds the substrate.

21. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 18, in which the substrate support structure comprises at least one substrate stop for

holding the substrate, wherein the substrate stop has a substrate support surface above the substrate holder surface.

22. (withdrawn, currently amended) The substrate holder assembly as claimed in claim 21, in which the substrate stop is formed by means of a hemisphere or a platform with an incision, which has at least one substrate support surface parallel to and above the substrate holder surface.

23. (currently amended) The substrate holder assembly as claimed in claim 1, in which a recess is provided on the substrate supporting face of the substrate holder and is at least sufficiently large that the substrate can at least partially be arranged in the recess, parallel to a support surface of the substrate holder.

24. (currently amended) The substrate holder assembly as claimed in claim 1, in which the substrate holder has a surface having a roughness of less than 10  $\mu\text{m}$ .

25. (currently amended) The substrate holder assembly as claimed in claim 1, in which the substrate holder has a ground or polished surface.

26. (currently amended) A facility for epitaxial deposition of a semiconductor material on a substrate of an assembly, the facility comprising:

at least one reactor;

a gas mixing system; and

an exhaust gas system,

wherein the at least one reactor comprises ~~at least one~~ a substrate holder of the assembly,

a mount for the substrate holder and a means for heating, and

wherein the substrate holder assembly is designed as claimed in claim 1.

27. (currently amended) The substrate holder assembly as claimed in claim 1, wherein the substrate holder is essentially composed of solid silicon carbide material.